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U.S. Department of Energy National Nuclear Security Administration Nevada Site Office Las Vegas, Nevada

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U.S. DEPARTMENT OF ENERGY FINDING OF NO SIGNIFICANT IMPACT

AERIAL OPERATIONS FACILITY MODIFICATIONS AT THE NEVADA TEST SITE

In December, 2000, the United States Department of Energy, National Nuclear Security Administration (NNSA) prepared an Environmental Assessment (DOE/EA-1334) (EA) which analyzed the potential environmental effects of constructing and operating the Aerial Operations Facility (AOF) at the Nevada Test Site (NTS). The purpose of the AOF was to construct, operate and test a variety of unmanned aerial vehicles (UAVs). A FONSI was issued and construction and operation of the AOF commenced. The success of the AOF resulted in plans for upgrades and safety enhancements that would more effectively support UAV operations and allow an expansion in the number and types of tests that are conducted. As a result, in October 2004 NNSA developed DOE/EA-1512 to analyze the potential environmental impacts of the proposed AOF upgrades.

roposed action as described in the EA, i.e., modification of the frastructure upgrades and expansion of operations, best meets plishing its mission of supporting national security while protect worker and public health and safety and protect the

ent terms in the EA are located in the Glossary in Chapter 9.0.

alysis in the EA, the NNSA finds that neither the proposed constitute a major federal action significantly affecting the it within the meaning of the National Environmental Policy Act Thus, an environmental impact statement is not required.

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FINDING:

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Signed in Las Vegas, Nevada, thi

★Kathleen A. Carlson, Manager NNSA Nevada Site Office

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Chapter 10.0 of the EA.

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List of Acronyms

AOF Aerial Operations Facility
ART Airborne Response Team

CAA Clean Air Act

CAS Corrective Action Site

CFR Code of Federal Regulations
DAF Device Assembly Facility

cm Centimeters dB Decibels

dBA A-weighted decibels
DOE Department of Energy

DOT Department of Transportation EA Environmental Assessment

FFACO Federal Facilities Agreement and Consent Order

FONSI Finding of No Significant Impact EIS Environmental Impact Statement

ft Foot
in Inches
m Meters
km Kilometers
kV Kilovolts

NAC Nevada Administrative Code

NDEP Nevada Division of Environmental Protection

NEPA National Environmental Policy Act
NRHP National Register of Historic Places
NNSA National Nuclear Security Administration

NNSA/NSO National Nuclear Security Administration/Nevada Site Office

NTS Nevada Test Site

NTS EIS Nevada Test Site Environmental Impact Statement
PM10 Particulate Matter less than 10 microns in diameter

RCRA Resource Conservation and Recovery Act

RMP Resource Management Plan

ROD Record of Decision

UAV Unmanned Aerial Vehicle VOCs Volatile Organic Compounds

1.0 INTRODUCTION

The National Environmental Policy Act of 1969 (NEPA) requires Federal agency officials to consider the environmental consequences of proposed actions before decisions are made. In complying with NEPA, the National Nuclear Security Administration (NNSA) follows the Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] 1500-1508) and the U.S. Department of Energy's (DOE's) NEPA implementing procedures (10 CFR 1021). The purpose of an Environmental Assessment (EA) is to provide Federal decision makers with sufficient evidence and analysis to determine whether to prepare an Environmental Impact Statement (EIS) or issue a Finding of No Significant Impact (FONSI).

The National Nuclear Security Administration/Nevada Site Office (NNSA/NSO), proposes to modify the Aerial Operations Facility (AOF) located in Area 6 at the Nevada Test Site (NTS) in Nye County, Nevada. This EA identifies and discusses potential environmental impacts associated with the proposed action.

1.1 Background

As the Federal agency that operates and manages the NTS, the U.S. Department of Energy in 1996 published a Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada (NTS EIS). The Record of Decision (ROD) for the NTS EIS stated that a combination of three alternatives would be implemented, including the Expanded Use alternative. Under the Expanded Use alternative, the Non-defense Research and Development Program and Work for Others Program would pursue new initiatives, increase military use of airspace over the Nevada Test Site, and increase training, research, and development by the military.

1.2 Purpose and Need for the Proposed Action

The Work for Others Program, as hosted by NNSA/NSO, includes the shared use of certain NTS facilities and resources with other federal agencies for various military training exercises and research and development projects. As stated in the NTS EIS (DOE, 1996), some of the previous defense-related research and development activities have included tests and training exercises involving aircraft and a variety of electronic, imagery, and sensory technologies that include, but are not limited to, infrared, lasers, and radar.

An EA (DOE/EA-1334) was written in December, 2000 to establish the AOF at the NTS. The purpose of the facility was to construct, operate, and test a variety of unmanned aerial vehicles (UAVs). Due to the success of this operation and in order to more effectively support UAV operations, modifications to the AOF have been requested by the customer. Modifications would enhance the safety of the existing runway, enable the AOF to increase the frequency of its operations, and would allow an expansion in the number and types of tests that are conducted. Many of the proposed modifications are outside the scope of the current AOF EA.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVE

This section summarizes the actions that were completed following issuance of the FONSI for the AOF EA (DOE, 2000). It also describes the proposed action to modify the AOF and the no-action alternative under which modifications to the AOF would not take place.

2.1 Establishment of the AOF and Current Operations

The AOF, located in Area 6 at the NTS, east of Yucca Lake (Figure 2.1) was established in 2001. The scope of work covered by the original AOF EA included construction of a mile-long runway (1,6 kilometers [km]) and a taxiway. The existing Airborne Response Team (ART) Hangar, which was built in 1988, was incorporated into the AOF. Additions to the facility included a new office trailer; asphalt pads for pole barns used to store air frames; and, concrete pads for storage of fuel and materials. Dirt access roads to the AOF were re-graded. A portion of the perimeter fence that would have crossed the new runway was removed, and a gate installed. Several small gas and diesel generators were moved to the AOF to provide back-up power, in the event that a power outage occurred during flights.

Operations are currently limited to several flights per week of remotely piloted aircraft (UAVs) and small manned aircraft, including a small manned chase plane that is used to track the UAVs. Any large aircraft that require access to the NTS, such as a C-130, use the Desert Rock Airport. Tests currently include, but are not limited to, airframe modification, sensor operation, and on-board computer technology development. Approximately 15 personnel are employed at the AOF.

2.2 Proposed Action to Modify the AOF

The NNSA/NSO proposes to modify the AOF. The purpose of the AOF would remain the same, i.e. to construct, operate, and test a variety of UAVs. Proposed modifications would include runway improvements, construction of Squadron Operations/Maintenance Facilities, new hangars, and various improvements to the existing infrastructure. Fire protection would be provided via a wet pipe sprinkler system.

Electrical upgrades would include removal and replacement of the existing power system feeder to the compound, as follows: replace all existing transformers in the compound and the substation transformers at the 34.5kV power line; install 34.5-12.47 kV pad mounted substation transformer; new 15kV switchgear; new underground conduit to distribute the power throughout the compound; new pad-mounted step-down transformers 12.47kV-480/277V for the existing ART hangar and for the new hangars (would serve existing trailers in the interim); and replacement of the service entrance for the ART hangar and trailers.

Table 2.1 contains a summary of the proposed modifications that include further expansion of the runway and taxiway areas and additional buildings and infrastructure upgrades. Conceptual designs of the facility that illustrate the proposed modifications are shown in Figures 2.2 and 2.3.

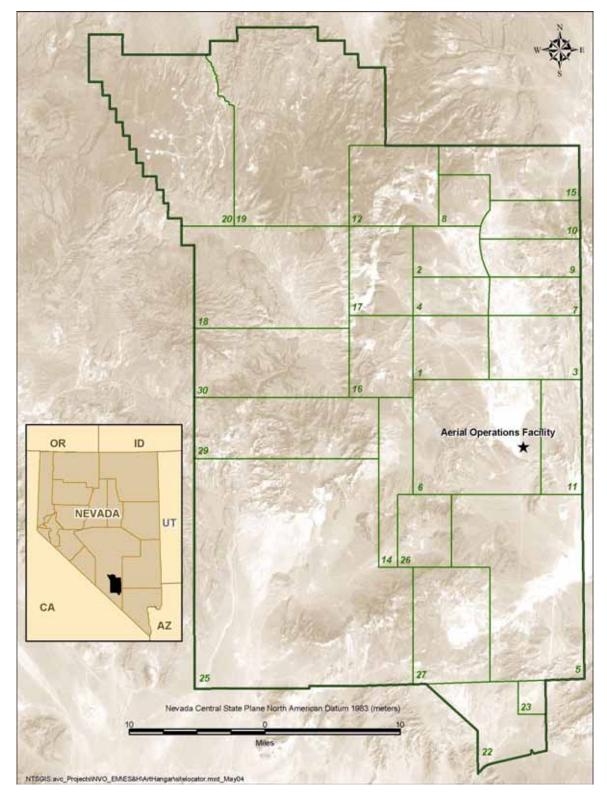


Figure 2.1 AOF Location Map

Table 2.1 Summary of Proposed Modifications

DESCRIPTION	PROPOSED MODIFICATION	ESTIMATED DISTURBANCE (ACRES)
Runway/Taxiway	Create a new runway to overlap existing one, increase width from 30.5 meters (m) [100 feet (ft)] wide to approx. 91.4 m (300 ft) wide (includes safety zone). Elevate new runway approx. 45.7 centimeters (cm) [18 inches (in)] from existing runway. Extend the runway 914.4 m (3,000 ft.) to the north/northeast and adding a turnaround ramp of approx. 84,987 sq m (15,000 sq. ft.)	24.3 21.0
	Add a parallel taxiway approximately 152.4 m (500 ft.) east of runway to run length of runway (2,438.4 m [8,000 ft.]). Taxiway would extend to XP and Falcon hangars, each approx. 243.8 m (800 ft.) long x 10.7 m (35 ft) wide.	1.3
	Pave entire runway, taxiways, taxi lanes and ramp. Site for asphalt batch plant 183 m x 183 m (600 ft x 600 ft).	8.3
	Demolish and remove concrete slabs near ART Hangar where new taxiway will be installed.	 1.0
	Add storm drainage system for runway and taxiway areas to account for 10-year event	1.0
	Add marker lighting, lighted wind cones and infrared sensitive paint for runway markings.	
	Add aircraft run-up pad with tie-downs and grounding points and parking pads with grounding points near ART Hangar.	1.0
	Cover clear zone on both sides of runway with Type II material and compact	
	Modify existing fence intercepted by runway to provide adequate safety area clearance	
	Install PAPI system for runway, including setting of aircraft approach angle	
	Install two banks of 10.2 cm (4-in) electrical conduits with 1.2 m x 1.2 m x 1.2 m (4 ft x4 ft x 4 ft) hand holes at each end under taxiway in two places	
Offices	New Squadron Operations/Maintenance Facilities approx. 1214.7 sq m (12,000 sq. ft.) near new hangars to include lead – acid and Ni-Cad battery rooms and other types of maintenance areas, mechanical rooms, office space and other rooms. Provide UPS for the LAN/Telephone system and the fire protection system controls.	0.3
Hangars	Construct two hangars, approx. 1393.6 sq m (15,000 sq. ft.) and 557.4 sq m (6,000 sq. ft.) and join as one facility.	0.5
Access Roads	Erect temporary hangar in undisturbed area; requires clearing/grubbing of approx. 2601.4 sq m (28,000 sq. ft.) Widen and pave power line road and turnoff road to AOF (approx. 0.75 mi)	0.6 3.6
Access Roads	Grade and gravel existing roads from Well C-1 to the AOF and outside fence on northeast quadrant (approx. 0.5 mi)	2.4
Septic System	Replace and enlarge existing system to accommodate approximately 80 personnel; includes replacement of leach field and replacement of septic tank with a dosing tank and septic tank. System would also be relocated.	0.9
Lay-down Areas	Clear/grub approx. 91.4 m x 91.4 m (300 ft x 300 ft) contractor lay-down area, approx. 8361.6 sq m (90,000 sq. ft.) heavy equipment parking yard and approx. 1858.1 sq m (20,000 sq. ft.) material lay-down area. Cover areas with Type II material.	2.1 2.1 0.5
Power and Electric	Remove/replace existing power system feeder to the compound, including all transformers, switchgear, underground conduit and replacement of the service entrance for the ART hangar and trailers (See Section 4.1.3 for details). Relocate trailer connection system when the trailers are relocated during hangar construction, dispose of when the hangars are operational.	

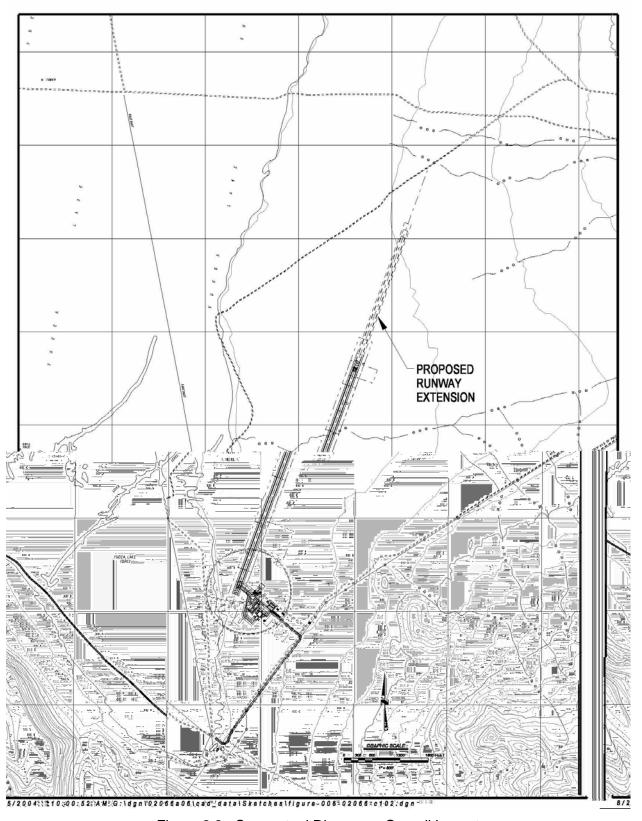


Figure 2.2 Conceptual Diagram - Overall Layout

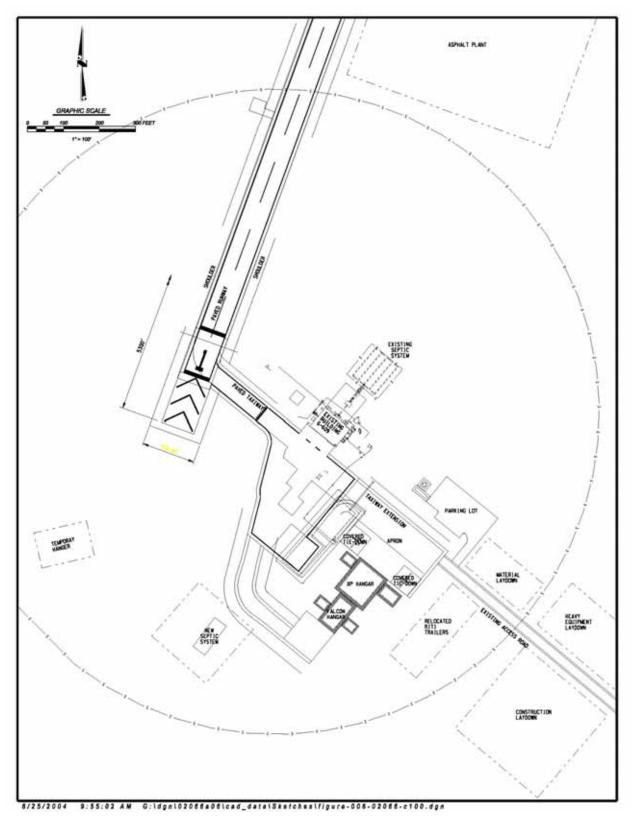


Figure 2.3 Conceptual Diagram – AOF Buildings and Hangars

Addition of a storm drainage system to account for a 10-year event would include a diversion ditch approximately 45.7 to 76.2 m (150 to 250 ft) east of the centerline of the runway. The ditch would start approximately 304.8 m (1,000 ft) north of the southern end of the runway and extend approximately 304.8 m (1,000 ft) beyond the north end of the 1615.4 m (5,300 ft) runway. A crossover ditch connecting the diversion ditch with culverts under the 1615.4 m (5,300 ft) runway (at about the halfway point on the runway traveling north-south) may be required. When the runway is extended 914.4 m (3,000 ft), an additional east-west ditch and culverts under the extended runway would be necessary to divert the water back to Yucca Lake. A diversion ditch and berm would also be required. The berm/ditch would be approximately 45.7 to 76.2 m (150 to 250 ft) east of the extended runway centerline and run basically north-south. Both the berm and the ditch would extend approximately 1,000 ft beyond the north end of the extended runway.

During operations, no fueled aircraft would be stored in the hangars; all fueling/defueling operations would take place outside. No aircraft washing would take place in the hangars or adjacent to the hangars. The nature of the aircraft prevents using normal washing techniques. Aircraft would be wiped down by hand when cleaning is required. Commercial aviation fuel would continue to be used for the test vehicles, and would be stored in 55-gallon drums or in a small tank.

Expansion of the AOF would result in an increase in the number of personnel from approximately 15 to anywhere from 20 to 80, depending on testing and flight schedules. The number of flights would also increase (See Section 4.1.2).

2.3 NO ACTION ALTERNATIVE

The "No Action" alternative identifies and describes impacts that would be expected to occur at the NTS if the AOF is not modified.

If the AOF was not modified, operations would continue in a manner similar to current conditions. The runway would not be extended, widened or elevated, and other supporting structures such as taxiways and new hangars discussed in the Proposed Action would not be constructed. The existing width of the runway does not allow for a safety zone, and the runway as it is now would therefore not be safe or suitable for permanent use. The loss of use of this facility would result in the loss of a valuable research and development tool for UAVs which have become vital in hostile situations.

3.0 AFFECTED ENVIRONMENT

The affected environment, as it pertains to the entire NTS, is described substantially within the NTS EIS (DOE, 1996); therefore, the reader is referred to that document for detailed discussion. Updated information or information that directly relates to the proposed modifications is described below, in addition to references to the NTS EIS.

3.1 LAND USE

Section 4.1.1 of the NTS EIS (DOE, 1996) discusses off-site land use and land use of other portions of the NTS.

The NTS is composed of lands reserved to the jurisdiction of the Atomic Energy Commission and its successors. The primary purposes for which the NTS lands were withdrawn are weapons testing and for "use in connection with the NTS". Historical uses of the NTS have included a number of compatible activities in addition to the primary continuing purpose of weapons testing, including various "work for others" activities. The currently proposed activities are also compatible, and not inconsistent with, the ongoing availability of the NTS for use as a weapons testing site. For a more detailed discussion of the land withdrawals for the NTS, the reader is referred to the NTS EIS, Volume 1, Section 4.1.1.1, Public Land Orders and Withdrawals, and Volume 3, Part A, Section 1.4, Use of Withdrawn Lands for Purposes Other than Weapons Testing.

Area 6 occupies 212 km² (82 mi²) between Yucca Flat and Frenchman Flat, straddling Frenchman Mountain. The Area 6 Aerial Operations Facility is located in the southeastern portion of Area 6 within the land use area designated in the NTS Resource Management Plan (RMP) as the National Security Use Zone (DOE, 1998). This zone has the most stringent criteria of the three zones identified in the RMP; these criteria include but are not limited to being complementary to or compatible with existing missions in the area, and a compelling need (such as security, restricted access, remote location, physical characteristics) that drives the project to be located in this zone.

The Control Point complex, a secured compound located about 2.8 miles west of the AOF in Area 6, serves as the command center as well as the air operations and timing and firing center for Yucca Flat, Frenchman Flat, Pahute Mesa, and surrounding areas. Ancillary facilities near the secured compound include a communications building, several radiological sciences and technical services buildings, a fire and first aid station, and various maintenance and warehouse structures.

The Federal Facility Agreement and Consent Order (FFACO) is an agreement between the DOE, DOD and State of Nevada that sets priorities, schedules and deadlines for DOE environmental restoration activities at the NTS and other locations within the state of Nevada. There are no identified CASs in the immediate area of the AOF. CAS 06-99-01, "Tony Test Area," is a Housekeeping site located less than 0.5 miles to the west of the runway that was cleaned up in 2003. CAS 06-17-02, the "Automatic Weapons Range, " has been identified for future work, and is located almost one mile south of the runway. CASs 06-15-02 and 06-15-03, two landfills located approximately one mile northwest of the AOF are also scheduled for future work.

3.2 AIRSPACE

Section 4.1.1 of the NTS EIS (DOE, 1996) discusses airspace as it applies to the NTS. The AOF is a limited-use airfield on federal property, owned by NNSA and operated in accordance with DOE Order 440.2, "Aviation," Title 14 CFR, "Aeronautics and Space," and applicable DOE/NV procedures.

3.3 UTILITIES AND INFRASTRUCTURE

Utilities and infrastructure already in place at and in the vicinity of the proposed site include emergency services, fire protection, water and wastewater distribution systems, electrical power, and communications. Section 4.1.1 of the NTS EIS (DOE, 1996) discusses utilities and infrastructure on the NTS.

Electric power is delivered to the NTS at the Mercury switching center in Area 23 by a primary 138 kilovolt (kV) supply line. Power is then transmitted to a 138 kV transmission system loop which supplies 8 major substations and one 138 kV radial transmission line. A 34.5 KV power line runs along the south side of the AOF at a distance of approximately 0.5 mi. (0.8 km) from the AOF.

Nonhazardous, nonradioactive, sanitary, and industrial wastes are disposed of in several industrial landfills, sewage treatment systems, and septic systems located throughout the NTS. Hazardous waste, regulated under the Resource Conservation and Recovery Act and wastes regulated under the Toxic Substances Control Act are shipped off-site to a commercial permitted facility for disposal. A 1,000 gal septic tank and leach field are located approximately 30.5 m (100 ft) east of the AOF. The system was installed when the ART Hangar was built in 1988. The leach field consists of five 4-inch perforated drain lines that are 30.5 m (100 ft) in length. The septic tank, distribution box and leach field are fenced.

3.4 VISUAL RESOURCES

Visual resources as they pertain to the NTS are discussed in Section 4.1.9 of the NTS EIS (DOE, 1996). Visual resources include the natural and man-made physical features that give a particular landscape its character and value as an environmental factor.

3.5 TRANSPORTATION AND TRAFFIC

The main access to Area 6 is Mercury Highway, which originates at U.S. Highway 95, 65 mi. (105 km) northwest of Las Vegas, Nevada, and accesses the main gate in Mercury. Mercury Highway, a paved two-lane road, is the primary route within the NTS. Most of this road is 26 ft (8 m) wide; however, the shoulders vary from 4 to 6 ft (1 to 2 m) wide. Traffic consists of light-and heavy-duty trucks and cars, security vehicles, and emergency vehicles. The Mercury Bypass is also a paved, two-lane road, 26 ft (8 m) wide that was built to divert traffic around the Mercury base camp to outlying areas of the NTS.

3.6 NOISE

Section 4.1.8 of the NTS EIS (DOE, 1996) describes the baseline noise conditions at the NTS. Anticipated noise sources at the AOF during modification would include truck traffic and operation of heavy equipment for extension of the runway and various facilities. Noise

generated during operations would include aircraft, traffic, heating and air conditioning equipment, and operation of heavy equipment for loading and unloading operations.

3.7 CLIMATE AND AIR QUALITY

Existing air quality conditions at the NTS, including local climate, meteorology, and ambient air quality, are discussed in detail in Section 4.1.7 of the NTS EIS.

3.8 WATER RESOURCES

Section 4.1.5 of the NTS EIS (DOE, 1996) provides discussion on the distribution, characteristics, and quality of surface water and groundwater on the NTS.

3.9 OCCUPATIONAL AND PUBLIC HEALTH AND SAFETY

The reader is referred to Section 4.1.11 of the NTS EIS (DOE, 1996) for a discussion of occupational and public health and safety as it relates to operations throughout the NTS.

3.10 BIOLOGICAL RESOURCES

A detailed discussion of the plant and animal communities present at the NTS can be found in Section 4.1.6 of the NTS EIS (DOE, 1996). A brief update is provided in this section.

NTS is in the transition zone between the Mojave Desert and the Great Basin Desert. As a result, it has a diverse and complex mosaic of plant and animal communities representative of both deserts, as well as some communities common only in the transition zone between them. This transition zone extends to the east and west far beyond the boundaries of NTS. Thus, the range of almost all species found onsite also extends beyond the site, and there are few rare or endemic species present.

Three hundred thirty-three species of terrestrial vertebrates have been recorded at NTS, including 60 species of mammals, 239 species of birds, and 34 species of reptiles. Typical Mojave Desert species found at the site include kit fox (*Vulpes macrotis*), Merriam's kangaroo rat (*Dipodomys merriami*), desert tortoise (*Gopherus agassizii*), chuckwalla (*Sauromalus obesus*), western shovelnose snake (*Chionactis occipitalis*), and sidewinder rattlesnake (*Crotalus cerastes*). Typical Great Basin Desert species include Townsend's ground squirrel (*Spemophilus townsendii*), Great Basin pocket mouse (*Perognathus parvus*), mule deer (*Odocoileus hemionus*), northern flicker (*Colaptes auratus*), scrub jay (*Aphelocoma coerulescens*), Brewer's sparrow (*Spizella breweri*), western fence lizard (*Sceloporus occidentalis*), and striped whipsnake (*Masticophis taeniatus*).

The proposed project location is in the northeastern portion of Area 6 east of the Yucca Playa in the transition zone between the Mojave and Great Basin Deserts. The vegetation associations of the project area are *Atriplex confertifolia-Kochia americana* and *Lycium andersonii-Grayia spinosa* Shrubland Associations (Ostler, et al, 2000).

The project site is outside the geographic range of the desert tortoise (*Gopherus agassizii*). The nearest known population of a sensitive plant species, *Camissonia megalantha* (largeflower suncup) is located 6.5 kilometers northeast of the site along Orange Blossom road. A siting of a burrowing owl has been recorded just east (<0.1 km) of the access road to the site.

This site was surveyed by a qualified biologist in June 2004 for the presence of sensitive plant and animal species and for any important biological resources such as active predator burrows. No sensitive plant or animal species were found during the survey. Numerous active predator burrows were found and

Several yuccas and cacti were also found in the survey area.

3.11 CULTURAL

Cultural resources are pr historic sites, buildings, structures, districts, objects, or places considered to be important to a culture or community. Cultural resources located on the NTS include archaeological site engineering features, and Native American religious or sacred places. Federal legislation requires agencies to consider the effect of proposed projects on cultural resources that are considered eligible for listing on the National Register of Historic Places (NRHP).

To date, more than 400 cultural resource investigations have been conducted on the NTS. Approximately 4 percent of the NTS has been investigated, mostly by 100 percent coverage pedestrian surveys, with consultation. A total of almost 2,200 cultural resources have been recorded; of those nearly half are eligible for inclusion on the NRHP. Ninety-six percent of the resources are prehistoric, with the remainder either historic, recent significant, u known, or multi-component (DOE 1999; DOE 2000; DOE 2002c; FAA 2000). The proposed project location has been surveyed for cultural resources. There were no significant cultural resources found in the vicinity of the AOF or the proposed expansion area

cultural resources throug ssion of American Indian resources throughout the NTS may be found in Appendix G of the NTS EIS (DOE, 1996).

3612 GEOLOGY AND OILS

Section 4.1.4 of the NTS EIS (DOE, 1996) provides a discussion of the geology, natural resources, and natural ha e NTS. Seismicity is the natural geologic hazard of primary concern.

Section 4.1.4 of the NTS EIS (DOE, 1996) also describes soils on the NTS. The NTS has been surveyed to identify radiologically contaminated. The AOF is approximately four miles from known plutonium-contaminated surface soils in both Yucca Flat and Plutonium Valley.

3613 SOCDECONOMICS

The socioeconomic region of influence (the area potentially affected by the proposed facility) is Nye County, Nevada. The socioeconomic trends, and the influence and relationship of NTS programs and activities in Nye County were extensively examined in Section 4.1.3 of the NTS EIS (DOE, 1996).

3614 ENVIRONMENTALJUSTICE

relatively small size and scope of this project, was determined that an environmental justice analysis would not be necessary.

4.0 ENVIRONMENTAL CONSEQUENCES

This section identifies the direct and indirect environmental consequences of the alternatives considered by NNSA/NSO. The level of each analysis for each resource area is based upon the potential magnitude of the environmental effect.

4.1 PROPOSED ACTION

This section describes the environmental consequences expected to occur if the proposed action were to be implemented.

4.1.1 Land Use

The AOF is located within an area designated in the NTS EIS and the NTS Resource Management Plan (RMP) as the Reserved Zone (see NTS EIS, Section 3.1.3.6 (DOE, 1996), and Section 10.3.1, NTS RMP, (DOE, 1998)). Use of the facility within the Reserved Zone is consistent with the NTS EIS ROD, the NTS EIS, and the NTS RMP. Completion of all of the proposed modifications would result in a disturbance of approximately 70acres of land. Construction and operations activities associated with the AOF would be coordinated through the NTS Site Operations Center to preclude conflicts with other facilities and activities at the NTS. In addition, the currently proposed activities are compatible, and not inconsistent with, the ongoing availability of the NTS for use as a weapons testing site. Considering that this project fits within the expected land use of the Reserved Zone and the coordination/deconfliction of activities of other facilities and organizations at the NTS, unacceptable adverse land use impacts are not anticipated.

4.1.2 Air Space

The majority of UAV flights would occur over Yucca Lake, with approximately 10 percent of the flights taking place over the rest of the NTS. There would be no flights allowed in the vicinity of the Device Assembly Facility (DAF). All flights are less than 12,000 feet in altitude, with the majority being much lower. Flights are coordinated, as necessary, with NNSA/NSO Site Operations and Nellis Air Force Base. Increased use of the AOF would result in approximately 4-6 takeoffs and landings daily (Monday through Thursday) for UAVs and 2-4 takeoffs and landings for manned aircraft, also daily. Flights would continue to be coordinated with these organizations, so that expanded use of the AOF would not impact air space use.

4.1.3 Infrastructure and Utilities

Existing infrastructure and utilities such as electrical power, water, wastewater and communications would be upgraded to accommodate expanded activities at the AOF. The upgrades were described in Section 2.2 and summarized in Table 1 as part of the proposed action and are consistent with upgrades to infrastructure and utilities throughout the NTS.

Construction debris and general trash generated by worker activities would result from construction activities and operation of the AOF. Construction debris would be disposed of in the U10c landfill. Food wastes and other general trash would be transported to the Area 23 sanitary landfill for disposal. The amount of non-hazardous solid waste would not be expected to exceed 1200 m3 (41,000 ft³) per year, assuming a maximum occupancy of 80 personnel, resulting in minimal impacts from AOF activities. Installation of a new septic tank and leach field is planned; the septic system would be sized to provide adequate wastewater disposal capacity

for all activities conducted at the AOF. Construction of the new system would require a design review and approval by the State, plus a new septic system permit. The existing septic system would be dispositioned based on consultation with appropriate state agencies.

Small quantities of hazardous wastes such as paints and solvents could be generated during construction activities and during general maintenance of the facility. Hangar floors would be sealed to prevent intrusion of hydraulic fluid during maintenance of the aircraft. Any hazardous wastes would be properly packaged, manifested, and transported to the Area 5 Hazardous Waste Storage Unit to await off-site disposal at a permitted facility.

The proposed modifications would necessitate upgrades to existing access roads from the Well C Complex to the AOF in order to accommodate movement of heavy equipment. Roads would be graded, widened, and covered with Type II material. Some of the roads would be paved. Parking areas at each of the facilities would also be paved.

4.1.4 Visual Resources

The AOF is not visible from public lands, including U.S. Highway 95. Extension of the runway and construction of additional structures within the existing facility and the extension of the runway would not result in a notable change to the view of the Yucca Dry Lake area.

4.1.5 Transportation and Traffic

The level of transportation at the AOF is low. Hazardous materials that are transported to the facility, such as solvents and paints, are similar in nature to what is being transported and analyzed in recent documents supporting activities on the NTS (DOE, 1997a and 1997b). Modifications and expanded operations at the AOF would not result in a noticeable increase in the current level of either on-site or off-site transportation.

4.1.6 Noise

Noise from fixed and rotary wing aircraft produces local levels of 80 to 90 a-weighted decibels (dBA). Worker hearing protection is required, as necessary, in the vicinity of aircraft operations. A noise level of 90 dBA at 50 feet decreases to 50dBA at one mile and to 44dBA at two miles (DOE, 1996). Because of the large size of the NTS, noise levels from these activities are barely audible at the NTS boundaries. Therefore, noise associated with the AOF at the nearest publicly accessible area, U.S. Highway 95, is consistent with or less than traffic noise on the public highway. The proposed modifications and increased use of the facility would not affect current noise levels.

4.1.7 Air Quality

Emissions from stationary, mobile, and fugitive PM_{10} sources occur within and outside of the AOF. These emissions would be dispersed over Area 6 and, to a lesser extent, over the rest of the NTS. At the boundaries of the NTS, ambient pollutant concentrations are well below the ambient air quality standards.

The largest quantity of fugitive dust generated during modifications of the AOF would be from construction and movement of heavy equipment. A portable screen plant would be brought onto the NTS for several months and erected at the Area 6 borrow pit. The plant would be used to supply aggregate for the AOF modifications as well as other projects. A large quantity of

aggregate (i.e., up to 200,000 cubic yards) would be stockpiled at previously disturbed locations that could include the west side and shoulder of an unused road (Orange Road), an area northeast of the intersection of Mercury Highway with Tippipah Highway, and/or an area within the AOF fenced perimeter. Particulate emissions from construction-related activities at the AOF and at the portable screen plant would be controlled through the use of water sprays. Dust from the aggregate storage pile would be controlled through the use of water sprays or a chemical surfactant. Operation of the plant at the NTS requires a State of Nevada Class II General Operating Permit.

An asphalt batching plant might also be relocated to the NTS on a temporary basis to be used for paving projects associated with the AOF modifications. A likely location for the plant would be northeast of the AOF compound, just outside the fence line. Emissions from asphalt paving would primarily be volatile organic compounds. The emissions from paving the airstrip would be minor when compared with the road repairs and paving jobs that routinely occur on the NTS. Emissions from these facilities would be temporary and would be controlled by means acceptable to the State. The asphalt plant would also require a State of Nevada Class II General Operating Permit prior to being brought onto the NTS.

Pollutants generated during operations would include fugitive dust from vehicular traffic on graveled and unpaved roads at the AOF and the lakebed airstrip. Other pollutants such as nitrogen oxides, sulfur dioxide and volatile organic compounds would be emitted during operation of fuel-burning diesel generators that provide auxiliary power. Emissions from these sources are intermittent and short-term, and within the operational limits of the NTS Class II Air Quality Operating Permit.

4.1.8 Water Resources

Water requirements for modifications to the AOF would be serviced by existing water supply wells and public water system. The main use of water during construction would be for dust suppression. The quantity of water that would be used is within that analyzed in the NTS EIS (DOE, 1996).

The water usage at the facility after completion of construction would be limited to routine domestic use. Assuming an average use of 35 gal (132.5 l)/day per person, and a maximum occupancy of 80 personnel, water usage and wastewater produced would be approximately 2,800 gal (10,598 l)/day.

The NTS EIS (DOE, 1996) assesses the impact of water withdrawal at the NTS. Groundwater use at the NTS is now less than one-fifth of the historic peak (DOE, 1996). Water requirements for construction and operation of the proposed AOF would be insignificant when compared to previous usage at the NTS and would not require additional water appropriation for the public waters of the state of Nevada.

4.1.9 Occupational and Public Health and Safety

The potential for activities at the NTS to impact the health and safety of the general public is minimized by a combination of the remote location of the NTS, the sparse population surrounding it, and a comprehensive program of administrative and design controls. Visitors to the NTS are subject to essentially the same safety and health requirements as workers. For instance, if workers are required to wear personal protective equipment (PPE), such as a hardhat, safety glasses, and/or steel-toed boots, before entering a facility, visitors would be

required to don the same PPE. Access to areas of the NTS where working conditions require special hazard controls is restricted through the use of physical security, signs, fences, and barricades.

The health and safety of NTS workers is protected by adherence to the requirements of federal and state law, DOE orders, and the plans and procedures of each organization performing work on the NTS. DOE Order 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*, establishes the framework for an effective worker protection program to reduce or prevent injuries, illnesses, and accidental losses by providing DOE Federal and contractor workers with a safe and healthful workplace. DOE Order 440.1A requires compliance with a wide range of safety and health related regulations and standards including, 29 CFR 1910, *Occupational Safety and Health Standards*, 29 CFR 1926, *Safety and Health Regulations for Construction*, 29 CFR 1960, *Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters*.

Inasmuch as the Area 6 Aerial Operations Facility would be used for Work for Others activities, it is anticipated that non-NNSA/NSO personnel would be conducting work at the facility. During the time that these personnel would be conducting work at the AOF, they would be considered as site workers and would be subject to all of the same requirements as NNSA/NSO Federal and contractor workers.

The types of work that occur at the AOF, such as fork lift operation, maintenance, welding, and handling of hazardous materials, are similar to those types encountered throughout the NTS. Impacts to worker safety and health due to construction and operational activities associated with the AOF are not expected to vary from those analyzed in the NTS EIS.

4.1.10 Biological Resources

Modifications to the AOF would result in the initial disturbance of approximately 49 acres of land, with possible expansion to include 70 acres, consisting of both undisturbed and previously disturbed habitat. The proposed project area was surveyed by a qualified biologist in June 2004. There were no sensitive plant or animal species inhabiting the proposed project area.

The AOF is located north of desert tortoise habitat. Therefore, there would be no impacts to this federally-listed threatened species.

4.1.11 Cultural Resources

Based upon pedestrian surveys of the proposed project area conducted by professional cultural resource specialists that meet Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation, 30 CFR Part 61, significant cultural resources are not present within the area of potential effect. Therefore, the proposed expansion of the AOF would not result in any impacts to cultural resources.

If previously undiscovered cultural resources were encountered during construction, all activities that could adversely affect them would be stopped; NNSA/NSO would initiate consultation with the Nevada State Historic Preservation Officer and the Advisory Council on Historic Preservation, as appropriate, pursuant to Section 106 of the National Historic Preservation Act. In addition, NNSA/NSO would consult with the Consolidated Group of Tribes and Organizations to identify potential impacts to American Indian cultural resources.

4.1.12 Geology and Soils

The geology of the site is generally favorable for the proposed modifications to the AOF. Grading and excavation are facilitated by flat or gently sloping terrain; however, the potential for near-surface caliche on older alluvial fan surfaces would complicate grading and excavation, if encountered. Some project activities, such as elevation of the runway, have the potential to change the existing drainage pattern. Storm drainage controls would include installation of culverts and regrading certain areas to divert flow around structures. The design of the storm drainage system would be based on a 10-year rain event.

4.1.13 Socioeconomics

During normal operations the AOF is estimated to employ about 40 personnel, with a maximum of 80 personnel during peak operations. It is not expected that the small number of employees would generate noticeable additional secondary jobs related to purchases of goods and services in either Clark or Nye Counties.

4.1.14 Environmental Justice

Due to the relatively small size of this project and limited number of employees, there would be no impacts to public health and no subsection of the population, including minority or low-income population, would receive disproportionate impact.

4.2 NO ACTION ALTERNATIVE

The No Action Alternative identifies and describes impacts that would be expected to occur at the NTS if the AOF modifications were not implemented. Since the proposed action is NTS-specific, the No Action Alternative would be limited to addressing impacts of no action at the NTS.

If the AOF modifications did not take place, there would be no additional disturbances to the land, and the environment in the vicinity of the project area would remain as it is. Elimination of the small number of new jobs that would have been created had the AOF modifications not taken place would not adversely affect socioeconomics or environmental justice.

5.0 CUMULATIVE IMPACTS

According to the Council on Environmental Quality regulations at 40 CFR 1508.7, cumulative impacts are anticipated impacts to the environment resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time." The region of influence for assessing cumulative impacts can vary widely from one resource to another. Because the AOF would have few, if any, environmental impacts outside of its immediate vicinity, the region of influence for this cumulative impact analysis, unless otherwise stated is the NTS. Implementation of the No Action Alternative would not result in any contribution to cumulative impacts in the region, except where noted in the following sections.

In addition to the ongoing activities of the NTS, such as waste management (solid, hazardous, low-level radioactive, mixed waste, and transuranic wastes), HAZMAT Spill Center, and DAF there are a number of other potential activities that NNSA/NSO analyzed as part of the cumulative impacts assessment. Those potential activities include the relocation of Technical Area 18 critical experimental facilities from Los Alamos National Laboratories to the DAF, releases of biological simulants and chemicals under *Environmental Assessment for Activities Using Biological Simulants and Releases of Chemicals at the Nevada Test Site* (DOE/EA-1494) (Chem/Bio EA), and construction and operation of the proposed Radiological/Nuclear Countermeasures Test and Evaluation Complex.

The following sections summarize the potential incremental contribution to cumulative impacts that would be expected from the proposed action and the no action alternative.

5.1 LAND USE

The AOF is geographically separated from the DAF and the proposed Rad/NucCTEC and would not affect any operations associated with those facilities. The AOF and surrounding immediately surrounding area would preclude use of the area for releases of chemicals and biological simulants but this is not viewed as a land use conflict because of the wide range of other areas of the NTS that could be used for such releases.

The proposed AOF, under both the Action and No Action Alternatives, fits within the expected land use of the Reserved Zone, as identified in the NTS EIS (DOE, 1996). Although the presence of the AOF would preclude use of that land for any other activity during the operational life of the AOF, use of the land for modifications planned for the AOF would not be expected to adversely impact other planned or ongoing activities at surrounding NTS or off-site facilities. and would therefore have no cumulative impact.

5.2 AIR SPACE

UAV flights would be conducted within the boundaries of the NTS. Depending on the eventual level of UAV-related activity, this alternative could require additional coordination with civil and military activities. The NTS EIS (DOE, 1996) assumed no changes to airspace structure and the current level of air traffic control and radar/radio/navigation aid services would likely be maintained or improved under normal upgrade programs. Although the level of operations at the AOF would increase under the proposed action, impacts to airspace would be minimized through coordination with other users of the air space and air traffic control. Impacts would be

confined to the NTS restricted air space would not affect civilian aircraft operations. Therefore, cumulative impacts to air space and aircraft operations would be minimal.

5.3 INFRASTRUCTURE AND UTILITIES

The impact to existing infrastructure capabilities would be negligible.

Small amounts of hazardous wastes could be generated from the proposed modifications and increased operation of the AOF. Solid and liquid non-hazardous wastes would be generated in greater quantities but would only result in minimal impacts. The additional waste streams resulting from operation of the AOF would represent a very minor increase in waste volumes currently generated at the NTS. There would be little cumulative impact from the generation of these wastes.

5.4 VISUAL RESOURCES

The visual character of the region would not significantly change as a result of the proposed AOF modifications. The runway would be widened and elevated approximately 25.4 cm (10 in). The runway modifications and additional facilities would not deter from the existing view on the horizontal attitude. The visual aspect would change from the vertical attitude; however, the airspace over the proposed UAV is restricted and there is no possibility of the facility being seen from any publicly accessible viewpoint, so there would be no impact to the general public. Therefore, there would be no cumulative impact.

5.5 TRANSPORTATION AND TRAFFIC

An average increase of approximately 5 to 65 one-way vehicle trips daily, generated by workers employed at the AOF, would contribute only slightly to the total annual mileage on U.S. Highway 95 and the NTS. The number of workers at the NTS as of 2001 (3,593) was less than the average of 3,659 in 1996 and significantly less than the average 7,700 reported from 1993 data (NNSA, 2002). Thus, there would be no noticeable impact to traffic or transportation on public highways or on the NTS.

5.6 NOISE

Noise impacts associated with expanded activities at the AOF would remain restricted to the geographical area contained therein and would not affect persons or residents in adjacent areas or add measurably to regional noise levels.

5.7 AIR QUALITY

Modifications and construction activities would take less than one year for the AOF. Calculations of potential emissions have shown that several tons of fugitive dust (PM₁₀) could be generated if the portable screen plant used to produce aggregate material was operated at the maximum number of allotted hours. This quantity of fugitive dust would comprise less than half of one percent of the total of 177,660 tons associated with land disturbance activities throughout the region represented by the Stateline and Tonopah resource areas and the Las Vegas Valley (NTS EIS, DOE, 1996). Other ongoing and/or proposed projects that would be expected to affect air quality through emissions of criteria and/or hazardous air pollutants, such as construction of the Rad/NucCTEC and releases of chemicals at the NTS are subject to the limits imposed by the NTS Air Quality Operating permit. No activity would be allowed to emit

pollutants that exceed the permitted quantity. Therefore, the cumulative effect on air quality of the proposed modifications to the AOF with other ongoing and proposed projects would be within the levels approved by the State of Nevada.

5.8 WATER RESOURCES

Naturally occurring surface waters at the NTS are limited to ephemeral streams resulting from snowmelt and precipitation runoff and drainage into playas to form temporary lakes. There would be no cumulative impacts to surface waters from construction and operation of the proposed AOF.

Groundwater use at the NTS is now less than one-fifth of the historic peak (DOE, 1996). Withdrawal of groundwater for construction and operation of the proposed AOF would add incrementally to the amount currently used. However, this increment of increased use of groundwater when considered in combination with all existing and anticipated uses at the NTS would still be below the historic use of that resource and would have no very little cumulative impact.

5.9 OCCUPATIONAL AND PUBLIC SAFETY AND HEALTH

Based on occupational injury rates for construction and other industrial activities cited in the NTS EIS (DOE, 1996), AOF activities would result in only one or two cases per year, with a similar estimated number of lost workdays. The AOF activities would not affect the regional rate. AOF activities would be conducted within the proposed project boundaries and would not affect the public.

5.10 BIOLOGICAL RESOURCES

The NTS encompasses approximately 1,375 square miles (880,000 acres). As of 1996 the total amount of land disturbed on the NTS was approximately 60,000 acres (DOE, 1996). This represents less than seven per cent of the total NTS area. The proposed modifications would disturb a maximum of 70 acres of land not previously disturbed, for an incremental increase in habitat loss of less than 0.01 per cent. Construction of the Rad/NucCTEC would result in a loss of an additional 100 acres of habitat for a cumulative loss of 170 acres or a 0.025 per cent incremental increase. Noise generated by the operation of the AOF when combined with noises from existing industrial operations in the area would result in a negligible cumulative impact on wildlife.

5.11 CULTURAL RESOURCES

Portions of the site of the proposed modifications and construction are undisturbed Cultural resources surveys of the area of the proposed AOF expansion have determined that there are no resources of significance present. There would be no cumulative impacts to cultural resources.

5.12 GEOLOGY AND SOILS

Modifications and expanded operation of the AOF would result in a minor loss of surficial deposits and soils in Yucca Flat, but is not anticipated to result in a significant cumulative impact to Yucca Flat. Use of aggregate for construction of new roads and pads associated with the proposed AOF modifications results in loss of this resource for other use, a cumulative impact to

regional aggregate mining. This cumulative impact is insignificant considering that aggregate resources are sufficiently plentiful to meet anticipated needs.

5.13 SOCIOECONOMICS

There would be little, if any, socioeconomic impact related to the AOF, since expanded use of the facility would only employ an additional 25 or 30 people. There would be no measurable effect on the number of jobs, average wages and household earnings, and tax revenues in either Clark County or Nye County.

5.14 ENVIRONMENTAL JUSTICE

There would be no impacts to minority and low-income populations in the region of influence from the modifications or expanded operations of the AOF. Thus, there is no contribution to the cumulative impact.

6.0 MITIGATION MEASURES

Mitigation measures are required for resources that would have major adverse impacts as a result of the proposed action or alternative action. All of the impacts to resource areas analyzed throughout this EA were determined to be minor for either the Proposed Action or No Action Alternative.

7.0 ACCIDENT SCENARIOS

The probability of a major accident occurring at the AOF during modifications and operation is low. Scenarios of accidents that could occur are described below. Accidents that could occur under the No Action Alternative are also briefly addressed.

7.1 ACCIDENTS CAUSED BY HUMAN ERROR

Accidents could occur through carelessness, inadequate training, or misuse of equipment. Accidents would be minimized by ensuring that personnel involved in modifications and operation of the AOF receive all relevant and required training and adhere to applicable rules and regulations. Under the No Action Alternative, the potential for accidents would be limited to current operations, since there would be no construction.

7.2 ACCIDENTS CAUSED BY EQUIPMENT FAILURE

Malfunctions of construction equipment and operations support equipment could occur due to equipment flaws or excessive wear. Equipment would be inspected regularly and maintained by qualified personnel to prevent accidents or failures.

Equipment failures associated with the UAVs could include malfunctions that cause the unmanned aircraft to go astray and crash into a facility, such as the DAF or the HazMat Spill Facility. The chances of this happening are very small. Every system associated with the UAVs is fully backed up, on the UAVs and on the ground. If the link with the UAV were to be broken, the UAV is programmed to return home.

The NTS EIS (DOE, 1996) analyzes the maximum reasonably foreseeable accidents for NTS program activities for each of the alternatives. For the Non-Defense Research and Development Program hazardous chemical effects, the maximum reasonably foreseeable accident that was analyzed was an airplane crash into the tank farm at the Liquid Gaseous Fuel Spill Test Facility (now known as the HazMat Spill Facility). This accident has a probability of one in one million per year. Under the No Action Alternative, the potential for accidents would be limited to current operations.

7.3 NATURAL HAZARDS

Potential natural hazards that could adversely impact the AOF include flooding and seismicity (earthquakes). Such hazards could result in structural damage to the facility, preventing flights from taking place, and preventing access to the facility.

Alluvial fan surfaces around the facility are subject to flooding in channels and as sheet flow. Yucca Lake playa is subject to flooding from direct precipitation and run-on from adjacent alluvial fan surfaces. In the event of flooding, operations would be postponed.

The NTS is located within Seismic Zone 2B, which is defined as an area with moderate damage potential from earthquakes. Current design practices require facilities to be built to Seismic Zone 4 standards (Section 4.1.4.2, NTS EIS, DOE, 1996). Seismicity hazard studies of the NTS predict that earthquakes with magnitudes between 5.8 and 7.0, and peak accelerations between 0.7 and 0.9 g, are probable within the next 15,000 years (Rogers et al., 1977; Campbell, 1980; Battis, 1978; and Hannon and McKague, 1975). These studies also show that the probability of at least one earthquake with a magnitude of 6.8 in the next 10,000 years is 54 percent. An

earthquake of magnitude 4.3 occurred along the Cane Spring fault in northern Frenchman Flat in 1971 (Case et al., 1984), and other earthquakes with magnitudes between 4.0 and 4.5 occurred in Frenchman Flat in 1973, 1974, 1977 and 1999 (U.S.G.S NEIC).

Natural hazards would be similar for the No Action Alternative, with the exception of the increased potential for flooding and preventing access to and use of the existing airstrip which is located on the lakebed.

7.4 FIRE OR EXPLOSION

Fire could occur through natural actions, such as lightning strikes, or from malfunctions of equipment, such as an electrical fire. Explosions due to combustion of materials could also occur.

The nature of the AOF is such that there is no credible risk from fire or explosion. The amount of fuel used in the UAVs is small. The amount of fuel stored at the facility in drums and tanks is relatively small and, if it were involved in a fire, would not pose a significant health and safety threat to the NTS community because of the isolation of the facility. Storing the fuel in a separate area located away from the ART Hangar would minimize the risk of fire or explosion.

Fire or explosion risks under the No Action Alternative would be similar to those of the proposed action.

8.0 REGULATORY REQUIREMENTS

This section briefly describes some of the major federal and state laws and regulations, executive orders, and DOE Orders that may apply to the proposed action and alternative. The NTS EIS, Appendix C, provides a comprehensive list of statutes, regulations, and executive orders applicable to NNSA/NSO.

8.1 FEDERAL LAWS AND REGULATIONS

Clean Air Act (CAA), 42 U.S.C. 7401, enacted by Pub. L. No. 90-148 as amended. The Clean Air Act, as amended, is intended to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population. The regulatory program for the CAA is administered within the state of Nevada by the Nevada Division of Environmental Protection (NDEP), Bureau of Air Pollution Control. Portions of the construction and modifications to the AOF would be conducted under air quality operating permits issued by the NDEP.

Clean Water Act of 1977, 42 U.S.C. 1251, et seq. enacted by Public Law No. 95-917 [amendments to the Federal Water Pollution Control Act of 1972]. The Clean Water Act was enacted to "restore and maintain the chemical, physical, and biological integrity of the Nation's water." Aspects of the proposed action such as replacement of the septic system would be subject to the CWA and permitted through the Nevada Bureau of Health Protection Services.

National Environmental Policy Act of 1969, 42 U.S.C. 4321, enacted by Pub. L. No. 91-190 as amended. NEPA established the policy of promoting awareness of the consequences of major federal activities on the quality of the human environment, and consideration of the environmental impacts during the planning and decision-making stages of a project. This EA is prepared pursuant to Section 102 of NEPA and in compliance with Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR 1500-1508) and DOE National Environmental Policy Act Implementing Procedures (10 CFR 1021).

Resource Conservation and Recovery Act (RCRA) of 1976, 42 U.S.C. 6901, enacted by Pub. L. No. 94-580, as amended. This act, and its implementing regulations at 40 CFR 260 through 273, provide the regulatory framework for "cradle-to-grave" control of hazardous wastes by imposing strict management requirements on generators, transporters, and owners and operators of hazardous waste treatment, storage, and disposal facilities. If hazardous waste were generated during construction or operation of the AOF, those wastes would be properly packaged, manifested, and transported to the Hazardous Waste Storage Pad in Area 5 of the NTS, pending shipment to a permitted commercial hazardous waste treatment and/or disposal facility.

Noise Control Act of 1972, 42 U.S.C. 4901, enacted by Pub. L. 92-574 as amended. The Noise Control Act, as amended, directs all federal agencies to carry out, "to the fullest extent within their authority," programs within their jurisdictions in a manner that furthers a national policy of promoting an environment free from noise that jeopardizes health and welfare. NNSA/NSO would comply with this statute by requiring workers and other personnel exposed to potentially harmful noise levels to use appropriate hearing protection.

Toxic Substances Control Act of 1976, 15 U.S.C. 2601, et seq., enacted by Pub. L. No. 94-469 as amended. The Toxic Substances Control Act of 1976 provides the EPA with the authority to require testing of both new and old chemical substances entering the environment and to regulate them where necessary. The Act also regulates the treatment, storage, and disposal of certain toxic substances not regulated by RCRA or other statutes, particularly polychlorinated biphenyls, chlorofluorocarbons, and asbestos.

8.2 STATE LAWS AND REGULATIONS

State of Nevada laws and regulations that are applicable to the modification or operation of the AOF include:

Clean Water Regulations: Sewage lagoons and septic systems are regulated under the Nevada Administrative Code (NAC), Chapter 444. Standards, regulations, permits, and requirements for septic tanks and other sewage disposal systems are established for single-family dwellings, communities, and commercial buildings. The Nevada Bureau of Health Protection Services would regulate the septic systems proposed for the AOF.

Clean Air Regulations: The NAC, Chapter 445B, implements both state and federal clean air statues and identifies requirements for permits for each air pollution source as well as monitoring requirements. Particulate emissions from surface disturbing activities which encompass an area equal to or greater than five acres are regulated under the NAC and require a Surface Disturbance Permit. Disturbances greater than 20 acres are required to implement a dust control plan. The NTS Class II Air Quality Operating Permit includes surface disturbances, so that separate Surface Disturbance permits are not required for activities within the NTS. Surface disturbances in excess of 20 acres require a dust control plan. At the NTS this plan includes dust suppression through the use of water sprays.

Solid Waste Regulations: Chapter 444 of the NAC sets forth the definitions, methods of disposal, special requirements for hazardous waste, collection and transportation standards, and classification of landfills. All solid waste generated at the AOF would be disposed at a permitted landfill on the NTS.

Hazardous Waste Regulations: Hazardous waste regulations are promulgated through NAC Chapter 444. The regulations establish fees, variances, restrictions, and permits and adopt 40 CFR Parts 2, 124, and 260 to 270 as a part of the Nevada Administrative Code. If hazardous waste were generated at the AOF, it would be properly packaged, manifested, and transported to the NTS Hazardous Waste Storage Pad in Area 5 pending disposal at a permitted offsite facility.

Safe Drinking Water Act Regulations: Regulations set forth in Chapter 445A of the NAC (1) set the standards for drinking water, specifications for certification, and control of variances/exemptions; (2) set standards and requirements for the construction of wells and other water supply systems; and (3) establish the different classes of wells, aquifer exemptions, prohibited wells, operation, monitoring, etc., as well as plugging and abandonment activities. Drinking water used at the AOF would be provided through an existing permitted water system. Any plans to modify the water system would be submitted to the Nevada Bureau of Health Protection Services for approval prior to construction.

8.3 DOE REGULATIONS, STANDARDS AND ORDERS AND EXECUTIVE ORDERS

Executive Order 11988 (Floodplain Management). This order requires federal agencies to establish procedures to ensure that the potential effects of flood hazards and floodplain management are considered for actions undertaken in a floodplain.

DOE Order 450.1, Environmental Protection. The objective of DOE Order 450.1 is to implement sound stewardship practices that are protective of the air, water, land, and other natural and cultural resources impacted by DOE operations and by which DOE cost effectively meets or exceeds compliance with applicable environmental; public health; and resource protection laws, regulations, and DOE requirements.

DOE Order 440.2, Aviation, establishes the framework for an efficient, effective, secure, and safe aviation program in the DOE and its contractor aviation operations. AOF operations would be required to comply with this order.

8.4 PERMITS

Permits that are applicable to the AOF modification and construction activities are listed in Table 8.1. Other compliance-related activities that would need to be addressed before initiating modifications and/or construction include the preparation and submittal of engineering plans and drawings for installation of potable water lines, water storage tanks, and septic systems.

TABLE 8.1Permits Applicable to the AOF

Permit Number	Permit Name	Expiration Date	Issuing Agency/ Regulation	Applicability to AOF
AP9711-0549.01	NTS Air Quality Operating Permit	06/25/09	State of Nevada Clean Air Act	Surface Disturbance Requires Dust Control Plan Emissions from Diesel Generators
AP1442-1429	General Air Quality Operating Permit	06/09/09	State of Nevada Clean Air Act	Portable Screen Plant
New Permit Required	General Air Quality Operating Permit	Temporary (Less than 1 Year)	State of Nevada Clean Air Act	Asphalt Batching Plant
NY-0360-12 NTNC	Public Water System Permit	09/30/05	State of Nevada Safe Drinking Water Act	 Potable water supply Permit Modification Required Engineering Plan Review Required
New Permit Required to Replace Existing NV-1076	Septic System	N/A	State of Nevada Clean Water Act	Septic Tank/Leach FieldNew Permit RequiredEngineering Plan Review Required

9.0 GLOSSARY

Alluvial fan. A type of sediment deposit caused by flowing water.

Ambient air. That portion of the atmosphere, outside of buildings, to which the general public is exposed.

Baseline. The initial environmental conditions against which the environmental consequences of various alternatives are evaluated.

Decibel (dB). A standard unit for measuring sound-pressure levels based on a reference sound pressure of 0.0002 dynes per square centimeter. This is the smallest sound a human can hear.

Decibel, a-weighted (dBA). Adjusted unit of sound measurement that corresponds to the relative sensitivity of the human ear at specified frequency levels. This represents the loudness as perceived by humans.

Endangered Species. Plants or animals that are in danger of extinction through all or a significant portion of their ranges and that have been listed as endangered by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures outlined in the Endangered Species Act and its implementing regulations (50 CFR 424). [See also Threatened Species.]

Effluent. A waste stream flowing into the atmosphere, surface water, ground water, or soil. Most frequently the term applies to wastes discharged to surface waters.

Environmental Assessment (EA). A concise public document that a Federal agency prepares under the National Environmental Policy Act (NEPA) to provide sufficient evidence and analysis to determine whether a proposed agency action would require preparation of an environmental impact statement (EIS) or a finding of no significant impact (FONSI). A Federal agency may also prepare an EA to aid its compliance with NEPA when no EIS is necessary or to facilitate preparation of an EIS when one is necessary. [See finding of no significant impact, environmental impact statement, and National Environmental Policy Act.]

Environmental Impact Statement (EIS). A detailed written statement that is required by section 102(2)(C) of NEPA for a proposed major Federal action significantly affecting the quality of the human environment. A DOE EIS is prepared in accordance with applicable requirement of the Council on Environmental Quality NEPA regulations in 40 CFR Parts1500-1508, and DOE NEPA regulations in 10 CFR Part 1021.

Finding of No Significant Impact (FONSI). A public document issued by a Federal agency briefly presenting the reasons why an action for which the agency has prepared an EA has no potential to have a significant effect on the human environment and, thus, will not require preparation of an EIS.

Fugitive Dust. Particulate matter composed of soil. Fugitive dust may include emissions from haul roads, wind erosion of exposed and/or disturbed soil surfaces, and other activities in which soil is either removed or redistributed.

Geologic Media. Refers to the characteristics of the rock or soil type at a specific site.

Groundwater. Water below the ground surface in a zone of saturation.

Hazardous Waste. A category of waste regulated under the Resource Conservation and Recovery Act (RCRA). To be considered hazardous, a waste must be a solid waster under RCRA and must exhibit at least one of four characteristics described in 40 CFR 261.20 through 261.24 (i.e., ignitability, corrosivity, reactivity, or toxicity) or be specifically listed by the Environmental Protection Agency in 40 CFR 261.31 through 261.33.

Infrastructure. Utilities and other physical support systems needed to operate a laboratory or test facility.

Mitigation. Actions and decisions that (1) avoid impacts altogether by not taking a certain action or parts of an action, (2) minimize impacts by limiting the degree or magnitude of an action, (3) rectify the impact by repairing, rehabilitating, or restoring the affected environment, (4) reduce or eliminate the impact over time by preservation and maintenance operation during the life of the action, or (5) compensate for an impact by replacing or providing substitute resources or environments.

Nonattainment Area. An area that has been designated by the U.S. Environmental Protection Agency or the appropriate site air quality agency as exceeding one or more national or state Ambient Air Quality Standards.

Particulate. Any finely divided liquid or solid material, other than uncombined (i.e., pure) water, such as dust, smoke, mist, fumes, or smog found in air or emissions.

Playa. A dry, vegetation-free, flat area at the lowest point of an undrained basin.

Record of Decision (ROD). A concise public document that records a Federal agency's decision(s) concerning a proposed action for which the agency has prepared an EIS. The ROD is prepared in accordance with the requirements of the Council on environmental Quality NEPA regulations (40 CFR 1505.2).

Runoff. Water, generally from precipitation (i.e., rain, snow, etc.), that flows over the land rather than infiltrating into the ground. Runoff generally contributes to the total water in a stream, river, lake, pond, or other water body.

Species of Concern. Species that were formerly listed by the U.S. Fish and Wildlife Service as Category 2 species.

Surface Water. All bodies of water on the surface of the earth and open to the atmosphere, such as rivers, lakes, reservoirs, ponds, seas, and estuaries.

Threatened Species. Any plants or animals that are likely to become endangered species within the foreseeable future throughout all or a significant portion of their ranges and which have been listed as threatened by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures set out in the Endangered Species Act and its implementing regulations (50 CFR 424).

Watershed. The land area that drains into a stream or river.

10.0 REFERENCES

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40 CFR Part 1500-1508	U.S. Environmental Protection Agency, "Protection of the Environment: Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act," <i>Code of Federal Regulations</i> , Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, D.C., 1993.
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General	

AOF EA Modifications October 2004

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APPENDIX A PUBLIC COMMENTS AND RESPONSES

In August 2004, the U.S. Department of Energy's National Nuclear Security Administration Nevada site Office (NNSA/NSO) issued the *Preapproval Draft Environmental Assessment for Aerial Operations Facility Modifications, Nevada Test Site* (DOE/EA-1334) for review and public comment. This appendix provides the written comment letters received and NNSA/NSO's responses.

Three comment letters were received, with a total of 4 comments. Comments have been assigned unique reference numbers. Responses to comments follow each letter and contain the comment reference number. Each written comment letter has been included. Table A-1 is a list of the comment letters that were received, with the letter reference numbers, commenter name, and organization if applicable.

Table A-1. Summary of Comments Received on the Preapproval Draft Environmental Assessment

Comment	Commenter	Page
Reference		Number
Number		
L-1	Robert Loux, State of Nevada, Agency for Nuclear Projects, Carson	A-4
	City, NV	
L-2	Michael Stafford, State of Nevada, Department of Administration,	A-7
	Carson City, NV.	
L-3	Michael Stafford, State of Nevada, Department of Administration,	A-10
	Carson City, NV.	

Note: Mr. Stafford is the Nevada State Clearinghouse Coordinator and as such forwarded comments that were received from the Nevada Bureau of Health Protection and the Nevada Historic Preservation Office.



OFFICE OF THE GOVERNOR AGENCY FOR NUCLEAR PROJECTS

1761 E. College Parkway, Suite 118

Carson City, Nevada 89706

Telephone: (775) 687-3744 • Fax: (775) 687-5277

E-mail: nwpo@nuc.state.nv.us September 21, 2004

Deborah Chalko NEPA Document Manager National Nuclear Security Administration Nevada Site Office P.o. Box 98518 Las Vegas, Nevada 89193

RE: Preapproval Draft Environmental Assessment (EA) for Aerial Operations Facility (AOF) Modifications, Nevada Test Site (DOE/EA-1334)

Dear Ms. Chalko:

The Nevada Agency for Nuclear Projects is providing the following comments in response to Kenneth Hoar's September 16, 2004 letter transmitting the above-referenced Draft EA:

(1) Relationship of the proposed action to the NTS mission

The Final EA should address how the Aerial Operations Facility (AOF) and proposed modifications relate to the mission for which Congress withdrew land for NTS. This has been an issue with respect to other NTS activities in the past. As part of the agreement governing settlement of the State of Nevada's lawsuit challenging the NTS sitewide EIS, DOE committed to consult with BLM in an effort to resolve inconsistencies between the land withdrawal legislation and various subsequent activities proposed for NTS. To date, Nevada is not aware that any such consultations have taken place.

(2) Cumulative impacts with the proposed Yucca Mountain project

The Draft EA makes no mention of how current and proposed AOF activities might affect or be affected by the proposed construction and operation of a high-level nuclear waste repository at Yucca Mountain and the transportation of spent fuel and high-level

L-1-2

L-1-1

radioactive waste to such a facility. The final EA should address this matter directly. In particular, there should be an analysis of potential risks posed by AOF operations to the surface facilities and operations at Yucca Mountain in the event of a UAV malfunction that results in a crash at the repository facilities. The final EA should also examine the impacts and potential consequences of a crash involving a UAV and a spent fuel or HLW shipment en route to the repository.

L-1-2 (cont'd)

Thank you for the opportunity to comment on the preapproval Draft EA. If you have questions regarding these comments or need additional information, please let me know.

Sincerely,

Robert R. Loux Executive Director

RRL/cs

cc Mike Strafford, State Clearinghouse Mike Hillerby

Response to comment L-1-1. The administrative land withdrawals which compose the boundaries of the NTS were withdrawn for the use of the DOE's successor Atomic Energy Commission for "weapons testing" and for purposes "in connection with" the NTS. Historical uses of the NTS have included a number of compatible activities in addition to the primary continuing purpose of weapons testing, including various "work for others" activities. The currently proposed activities are also compatible, and not inconsistent with, the ongoing availability of the NTS for use as a weapons testing site.

In response to comments on the draft NTS EIS, in 1996 the DOE committed to entering into a consultation process with the U.S. Department of Interior (DOI) to ensure that uses of the NTS would remain consistent with the purpose for which the lands were withdrawn. (As noted in the Agency for Nuclear Projects comment, a similar DOE commitment was entered into in settlement of a state of Nevada lawsuit.) The consultation process between the DOE and the DOI is still underway, and DOE has kept the State of Nevada appraised of this consultation through repeated correspondence with state of Nevada officials from 1998 through 2003.

Response to comment L-1-2. Flights of the UAV are restricted to the eastern portion of the NTS. Routine flights would come no closer than 20 miles from the Yucca Mountain proposed repository. As stated in Section 7.2 of the AOF EA, equipment failures associated with the UAVs could include malfunctions that cause the unmanned aircraft to go astray and crash into a facility, such as the DAF or the HazMat Spill Facility. There is minimal chance of this occurring. Furthermore, the size and construction of the UAV would render it incapable of causing extreme damage to an existing structure. Every system associated with the UAVs is fully backed up, on the UAVs and on the ground. If the link with the UAV were to be broken, the UAV is programmed to return home.

The NNSA has developed a methodology of analysis, planning and program implementation to minimize the potential for accidents, as well as the mitigation of consequences in the remote possibility of an accident occurring. There is an established Emergency Management network at the NTS that provides interface with the facility personnel in the event of an emergency for coordination of site-wide response, including YMP personnel.



DEPARTMENT OF ADMINISTRATION

209 E. Musser Street, Room 200 Carson City, Nevada 89701-4298 Fax (775) 684-0260 (775) 684-0209

October 13, 2004

Ms. Deborah Chalko, NEPA Document Manager National Nuclear Security Administration, Nevada Site Office P.O. Box 98518 Las Vegas, Nevada 89193

Re:

SAI NV #E2005-067

Project:

Pre-approval Draft EA for Aerial Operations Facility (AOF)

Modifications - DOE/EA-1334

Dear Ms. Chalko:

Enclosed is an additional comment from the Nevada Bureau of Health Protection Services that was received after our previous letter to you. Please incorporate this comment into your decision making process. If you have any questions, please contact me at (775) 684-0209.

Sincerely,

Michael J. Stafford

Nevada State Clearinghouse Coordinator/SPOC

Enclosure

ACTION _	HISDD	
NSO/MGR		
AMEM		
AMNS		
AMSO		
AMSSD		

NEVADA STATE CLEARINGHOUSE

Department of Administration **Budget and Planning Division** 209 East Musser Street., Room 200 Carson City, Nevada 89701-4298 (775) 684-0209

> Fax (775) 684-0260 DATE: September 21, 2004

RECEIVED

BUREAU OF HEALTH

Agency Agency Conservation & Natural Resources Conservation Districts Environmental Protection Forestry Health Historic Preservation Lands Minerals Natural Heritage Public Utilities Commission Transportation **UNR Mines** Water Resources Wildlife, Director's Office Wildlife, Elko Wildlife, Las Vegas

Nevada SAI # E2005-067

Project: DOE - Draft EA - NTS - Aerial Operations Facility Modifications CL-1552-04

CLEARINGHOUSE NOTES

Enclosed, for your review and comment, is a copy of the above-mentioned project. and programs; the importance of its contribution to state and/or local areawide goa orders or regulations with which you are familiar.

Please submit your comments no later than October 6, 2004. Use the space provided, please use agency letterhead and include the Nevada SAI number and Stafford, Clearinghouse Coordinator, (775) 684-0209 or mstafford@budget.state.nv.u

_No comment on this project

AGENCY COMMENTS:

Any plans to modify Public Water : with Nevada Administrative Code 4 and must be submitted to the Bure; approval prior to construction.

S.

supported as written

Please evaluate it with respect to its effect on your plans

is and objectives; and its accord with any applicable laws,

te below for short comments If significant comments are

comment due date for our reterence. Questions? Michael

System 0000360-12-NCNT must comply

45A.65505 through 445A.6731 inclusive

au of Health Protection Services for

10/11/04

Response to comment L-2-1. NNSA is aware that any plans to modify the referenced Public Water System, or other Public Water Systems on the NTS, must be submitted to the Bureau of Health Protection Services for review and approval prior to construction, in accordance with NAC 445A. We have updated Section 8.2 of the EA to include this information. We have also made a revision to Table 8.1 in Section 8.4 to correct the Public Water System number that is applicable to Area 6.



DEPARTMENT OF ADMINISTRATION

209 E. Musser Street, Room 200 Carson City, Nevada 89701-4298 Fax (775) 684-0260 (775) 684-0209

October 11, 2004

Ms. Deborah Chalko, NEPA Document Manager National Nuclear Security Administration, Nevada Site Office

F.O. 50x 45316	
Las Vegas, Nevada 89193	
Re SΔ NV/#E2004	5-067

Project: Pre-approval Draft EA for Aerial Operations Facility (AOF)

Modifications – DOE/EA-1334

Dear Ms. Chalko:

Enclosed is an additional comment from the Nevada State Historic Preservation Office that was received after our previous letter to you. Please incorporate this comment into your decision making process. If you have any questions, please contact me at (775) 684-0209.

Sincerely,

Michael J. Stafford

Nevada State Clearinghouse Coordinator/SPOC

Enclosure

ACTION INFO	HSOD	
NSO/MGR		
AMEM AMNS	-	
AMSO		
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NEVADA STATE CLEARINGHOUSE

Department of Administration **Budget and Planning Division** 209 East Musser Street., Room 200 Carson City, Nevada 89701-4298 (775) 684-0209 Fax (775) 684-0260

DATE: September 21, 2004

Personal Address			
Conservation & Natural Resources			
Environmental Protection			
Fire Marshal			
Health			
Historic Preservation			
Lands			
Natural Heritage			
Nuclear			
Public Utilities Commission			
Water Resources			
Wildlife, Director's Office			
Wildlife, Fallon			
Wildlife, Las Vegas			

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ALICE M. BALDRICA.

Signature

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Nevada SAI # E2005-067

listoric PReservation Office

Agency

iedlications Brotect: DQL Draffler NIS Acria Onerations Racility V Enclosed, for your review and comment, is a copy of the above-mentioned project. Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws. orders or regulations with which you are familiar. Please submit your comments no later than October 6, 2004. Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Michael Stafford, Clearinghouse Coordinator, (775) 684-0209 or mstafford@budget.state .nv.us. No comment on this project osa! supported as written AGENCY COMMENTS: L-3-1 The division has reviewed the draft environmental assessment. states that a cultural resource surv ey of the project area has been of ver been sent to this office as reviewed completed; however, the report has n Eistoric Preservation Office has reviewed for review. White the State the report we are unable to c oncur with your findings. Lee M Baldu

1018/04

775-684-3444

Response to comment L-3-1. The Class III Cultural Resource Survey for the proposed project area has been submitted to the State Historic Preservation Office for concurrence with the determination made by NNSA/NSO that there will be no adverse impact to eligible structures in the Area of Potential Effect.